according to $1/2^x$ where x is a positive integer having a maximum value N, the interpolator being adapted to:

a) interpolate values for sub-pixels at $1/2^{N-1}$ unit horizontal and unit vertical locations, and unit horizontal and $1/2^{N-1}$ unit vertical locations directly using weighted sums of pixels residing at unit horizontal and unit vertical locations;

b) interpolate values for subpixels at $1/2^{N-1}$ unit horizontal and $1/2^{N-1}$ unit vertical locations directly using a choice of a first weighted sum of values for sub-pixels residing at $1/2^{N-1}$ unit horizontal and unit vertical locations and a second weighted sum of values for sub-pixels residing at unit horizontal and $1/2^{N-1}$ unit vertical locations, the first and second weighted sums of values being calculated according to step (a); and

c) interpolate a value for a sub-pixel situated at a $1/2^N$ unit horizontal and $1/2^N$ unit vertical location by taking a weighted average of the value of a first sub-pixel or pixel situated at a $1/2^{N-m}$ unit horizontal and $1/2^{N-n}$ unit vertical location and the value of a second sub-pixel or pixel located at a $1/2^{N-p}$ unit horizontal and $1/2^{N-q}$ unit vertical location, variables m, n, p and q taking integer values in the range 1 to N such that the first and second sub-pixels or pixels are located diagonally with respect to the sub-pixel at $1/2^N$ unit horizontal and $1/2^N$ vertical location.

35. (Amended) A video coder for coding an image comprising pixels arranged in rows and columns and represented by values

having a specified dynamic range, the pixels in the rows residing at unit horizontal locations and the pixels in the columns residing at unit vertical locations, the coder comprising an interpolator adapted to generate values for sub-pixels at fractional horizontal and vertical locations, the resolution of the sub-pixels being determined by a positive integer N, the interpolator being adapted to:

a) interpolate values for sub-pixels at $1/2^{N-1}$ unit horizontal and unit vertical locations, and unit horizontal and $1/2^{N-1}$ unit vertical locations directly using weighted sums of pixels residing at unit horizontal and unit vertical locations;

b) interpolate a value for a sub-pixel at a sub-pixel horizontal and sub-pixel vertical location directly using a choice of a first weighted sum of values for sub-pixels located at a vertical location corresponding to that of the sub-pixels being calculated and a second weighted sum of values for sub-pixels located at a horizontal location corresponding to that of the sub-pixel being calculated.

38. (Amended) A video coder according to claim 35 in which the interpolator is further adapted to interpolate values for sub-pixels at $1/2^{N}$ unit horizontal and $1/2^{N}$ unit vertical locations by taking the average of at least one pair of a first pair of values of a sub-pixel located at a $1/2^{N-1}$ unit horizontal and unit vertical location, and a sub-pixel located at a unit horizontal and $1/2^{N-1}$ unit vertical location and a second pair of values of a pixel located at a unit horizontal and unit vertical

location, and a sub-pixel located at a $1/2^{N-1}$ unit horizontal and $1/2^{N-1}$ unit vertical location.

42. (Amended) A communications terminal comprising a video coder for coding an image comprising pixels arranged in rows and columns and represented by values having a specified dynamic range, the pixels in the rows residing at unit horizontal locations and the pixels in the columns residing at unit vertical locations, the coder comprising an interpolator adapted to generate values for sub-pixels at fractional horizontal and vertical locations, the resolution of the sub-pixels being determined by a positive integer N, the interpolator being adapted to:

a) interpolate values for sub-pixels at $1/2^{N-1}$ unit horizontal and unit vertical locations, and unit horizontal and $1/2^{N-1}$ unit vertical locations directly using weighted sums. of pixels residing at unit horizontal and unit vertical locations;

b) interpolate a value for a sub-pixel at a sub-pixel horizontal and sub-pixel vertical location directly using a choice of a first weighted sum of values for sub-pixels located at a vertical location corresponding to that of the sub-pixel being calculated and a second weighted sum of values for sub-pixels located at a horizontal location corresponding to that of the sub-pixel being calculated.

46. (Amended) A telecommunications system comprising a communications terminal and a network, the telecommunications

network and the communications terminal being connected by a communications link over which coded video can be transmitted, the communications terminal comprising a video coder for coding an image comprising pixels arranged in rows and columns and represented by values having a specified dynamic range, the pixels in the rows residing at unit horizontal locations and the pixels in the columns residing at unit vertical locations, the coder comprising an interpolator adapted to generate values for sub-pixels at fractional horizontal and vertical locations, the resolution of the sub-pixels being determined by a positive integer N, the interpolator being adapted to:

a) interpolate values for sub-pixels at $1/2^{N-1}$ unit horizontal and unit vertical locations, and unit horizontal and $1/2^{N-1}$ unit vertical locations directly using weighted sums of pixels residing at unit horizontal and unit vertical locations;

b) interpolate a value for a sub-pixel at a sub-pixel horizontal and sub-pixel vertical location directly using a choice of a first weighted sum of values for sub-pixels located at a vertical location corresponding to that of the sub-pixel being calculated and a second weighted sum of values for sub-pixels located at a horizontal location corresponding to that of the sub-pixel being calculated.

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49. (Amended) A telecommunications system comprising a communications terminal and a network, the telecommunication network and the communications terminal being connected by a communications link over which coded video can be transmitted, the network comprising a video coder for coding an image

comprising pixels arranged in rows and columns and represented by values having a specified dynamic range, the pixels in the rows residing at unit horizontal locations and the pixels in the columns residing at unit vertical locations, the coder comprising an interpolator adapted to generate values for sub-pixels at fractional horizontal and vertical locations, the resolution of the sub-pixels being determined by a positive integer N, the interpolator being adapted to:

a) interpolate values for sub-pixels at $1/2^{N-1}$ unit horizontal and unit vertical locations, and unit horizontal and $1/2^{N-1}$ unit vertical locations directly using weighted sums of pixels residing at unit horizontal and unit vertical locations;

b) interpolate a value for a sub-pixel at a sub-pixel horizontal and sub-pixel vertical location directly using a choice of a first weighted sum of values for sub-pixels located at a vertical location corresponding to that of the sub-pixel being calculated and a second weighted sum of values for sub-pixels located at a horizontal location corresponding to that of the sub-pixel being calculated.

Please add the following claim(s):

50. (New) A codec for coding an image comprising pixels arranged in rows and columns and represented by values having a specified dynamic range, the pixels in the rows residing at unit horizontal locations and the pixels in the columns residing at unit vertical locations, the codec comprising a video encoder

and a video decoder, each of the video encoder and the video decoder comprising an interpolator adapted to generate values for sub-pixels at fractional horizontal and vertical locations, the fractional horizontal and vertical locations being defined according to $1/2^x$, where x is a positive integer having a maximum value N, the interpolator of the video encoder and the interpolator of the video decoder each being adapted to:

a) interpolate values for sub-pixels at $1/2^{N-1}$ unit horizontal and unit vertical locations, and unit horizontal and $1/2^{N-1}$ unit vertical locations directly using weighted sums of pixels residing at unit horizontal and unit vertical locations;

b) interpolate values for sub-pixels at $1/2^{N-1}$ unit horizontal and $1/2^{N-1}$ unit vertical locations directly using a choice of a first weighted sum of values for sub-pixels residing at $1/2^{N-1}$ unit horizontal and unit vertical locations and a second weighted sum of values for sub-pixels residing at unit horizontal and $1/2^{N-1}$ unit vertical locations, the first and second weighted sums of values being calculated according to step (a); and

c) interpolate a value for a sub-pixel situated at a $1/2^N$ unit horizontal and $1/2^N$ unit vertical location by taking a weighted average of the value of a first sub-pixel or pixel situated at a $1/2^{N-m}$ unit horizontal and $1/2^{N-n}$ unit vertical location and the value of a second sub-pixel or pixel located at a $1/2^{N-p}$ unit horizontal and $1/2^{N-q}$ unit vertical location, variables m, n, p and q taking integer values in the range 1 to N such that the first and second sub-pixels

or pixels are located diagonally with respect to the sub-pixel at $1/2^N$ unit horizontal and $1/2^N$ vertical location.

51. (New) A codec for coding an image comprising pixels arranged in rows and columns and represented by values having a specified dynamic range, the pixels in the rows residing at unit horizontal locations and the pixels in the columns residing at unit vertical locations, the codec comprising a video encoder and a video decoder, each of the video encoder and the video decoder comprising an interpolator adapted to generate values for sub-pixels at fractional horizontal and vertical locations, the resolution of the sub-pixels being determined by a positive integer N, the interpolator of the video encoder and the interpolator of the video decoder each being adapted to:

a) interpolate values for sub-pixels at $1/2^{N-1}$ unit horizontal and unit vertical locations, and unit horizontal and $1/2^{N-1}$ unit vertical locations directly using weighted sums of pixels residing at unit horizontal and unit vertical locations;

b) interpolate a value for a sub-pixel at a sub-pixel horizontal and sub-pixel vertical location directly using a choice of a first weighted sum of values for sub-pixels located at a vertical location corresponding to that of the sub-pixel being calculated and a second weighted sum of values for sub-pixels located at a horizontal location corresponding to that of the sub-pixel being calculated.